IN THE CLAIMS

Please amend the claims as follows:

1. (currently amended) An optical scanning device for scanning a multi-layer optical record carrier when positioned in a scanning location in the device, the device being configured~~adapted~~ for scanning a first information layer at a first information layer depth within the record carrier and a second information layer at a second information layer depth within the record carrier, the device comprising:

a radiation source for generating a radiation beam;

an objective lens, located in an optical path between the radiation source and the scanning location, for converging a radiation beam to a spot on an information layer; and

an optical switching arrangement switchable between a first state, in which the device is arranged to scan ~~a~~ said first information layer, and a second state, in which the device is arranged to scan ~~a~~ said second information layer,

wherein the optical switching arrangement comprises a non-mechanical compensator arranged to generate, without need of a mechanical system, a different amount of spherical aberration in a radiation beam when in said first state and when in said second state,

~~characterised in that~~ wherein the non-mechanical compensator is further arranged to generate a different amount of vergence in a radiation beam when in said first state and when in said second state, the different amounts of spherical aberration and vergence being selected such that a free working distance between said objective lens and said optical record carrier remains substantially constant when switching between said first

and second states.

2. (original) An optical scanning device according to claim 1, wherein a change in free working distance (Δfwd) when switching between said first and second states is less than 5% of a difference (Δd) in the first and second information layer depths.

3. (original) An optical scanning device according to claim 2, wherein the change in free working distance (Δfwd) is less than 1% of the difference (Δd) in the first and second information layer depths.

4. (original) An optical scanning device according to claim 1, wherein a change in free working distance (Δfwd) when switching between said first and second states is less than a focal tolerance Δz:

$$\Delta z = 0.5 \frac{\lambda}{NA^2}$$

where λ is the wavelength of the said radiation beam and NA the numerical aperture of the objective lens.

5. (currently amended) An optical scanning device ~~according to claim 1,~~ for scanning a multi-layer optical record carrier when positioned in a scanning location in the device, the device being configured for scanning a first information layer at a first information layer depth within the record carrier and a second information layer at a second information layer depth within the record carrier, the device comprising:

a radiation source for generating a radiation beam;

an objective lens, located in an optical path between the radiation source and the scanning location, for converging a radiation beam to a spot on an information layer; and

an optical switching arrangement switchable between a first state, in which the device is arranged to scan a said first information layer, and a second state, in which the device is arranged to scan a said second information layer,

wherein the optical switching arrangement comprises a compensator arranged to generate a different amount of spherical aberration in a radiation beam when in said first state and when in said second state,

wherein the compensator is further arranged to generate a different amount of vergence in a radiation beam when in said first state and when in said second state, the different amounts of spherical aberration and vergence being selected such that a free working distance between said objective lens and said optical record carrier remains substantially constant when switching between said first and second states,

wherein said compensator comprises a set of fluids having a switchable configuration.

6. (original) An optical scanning device according to claim 5, wherein said set of fluids provides a fluid meniscus of which the shape is varied when switching between said first and second states to provide the different amounts of spherical aberration and vergence.

7. (currently amended) An optical scanning device according to claim 1, wherein said non-mechanical compensator comprises a birefringent grating element arranged to provide the different amounts of spherical aberration and vergence.

8. (currently amended) An optical scanning device according to claim 1, wherein said non-mechanical compensator comprises a birefringent phase structure having a non-periodic pattern which does not regularly repeat in a radial direction on the non-mechanical compensator, the phase structure being arranged to provide the different amounts of spherical aberration and vergence.

9. (original) A method of operating the optical scanning device of claim 1, comprising reading data from the record carrier during a scanning operation conducted on one information layer, and altering the optical characteristics of the optical switching arrangement in order to compensate for a wavefront aberration generated in the record carrier when conducting a subsequent scanning operation on the other layer.

10. (original) A method of operating the optical scanning device of claim 1, comprising writing data to the record carrier during a scanning operation conducted on one information layer, and altering the optical characteristics of the optical switching arrangement in order to compensate for a wavefront aberration generated in the record carrier when conducting a subsequent scanning operation on the other information layer.

11. (currently amended) A~~n~~ non-mechanical optical element ~~adapted~~configured for use in an optical scanning device for scanning a multi-layer optical record carrier when positioned in a scanning location in the device, the device being ~~adapted~~configured for scanning a first information layer at a first information layer depth within the record carrier and a second information layer at a second information layer depth within the record carrier, the device comprising:

a radiation source for generating a radiation beam;

an objective lens, located in an optical path between the radiation source and the scanning location, for converging a radiation beam to a spot on an information layer; and

an optical switching arrangement switchable between a first state, in which the device is arranged to scan ~~a~~ said first information layer, and a second state, in which the device is arranged to scan ~~a~~ said second information layer,

wherein the non-mechanical optical element is ~~arranged to be~~ included in said switching arrangement and is configured to generate, without need of a mechanical system, a different amount of spherical aberration in a radiation beam when the optical switching arrangement is in said first state and when in said second state,

~~characterised in that~~wherein the non-mechanical optical element is ~~further arranged~~configured to generate a different amount of vergence in a radiation beam when in said first state and when in said second state, the different amounts of spherical aberration and vergence being selected such that a free working distance between said objective lens and said optical record carrier remains substantially constant when switching between said first and second states.

12. (new) The non-mechanical optical element of claim 11, wherein the non-mechanical optical element is disposed within said optical path.

13. (new) The optical scanning device of claim 1, wherein the non-mechanical compensator is disposed within said optical path.

14. (new) The optical scanning device of claim 1, wherein the non-mechanical compensator comprises an electrically-switchable fluid cell.

15. (new) The non-mechanical optical element of claim 11, wherein the non-mechanical optical element comprises an electrically-switchable fluid cell.